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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,115	12/14/2001	Charles L. Sawyers	30435.53USD2	4057

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MANDEL & ADRIANO
55 SOUTH LAKE AVENUE
SUITE 710
PASADENA, CA 91101

EXAMINER	
HAMA, JOANNE	

ART UNIT	PAPER NUMBER
1632	

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/022,115	SAWYERS ET AL.	
	Examiner	Art Unit	
	Joanne Hama, Ph.D.	1632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 21-34 are pending. Claims 21-26 are under current examination.

Election/Restrictions

Applicant's election with traverse of Group I (claims 21-26) in the reply filed on 4/12/04 is acknowledged. The traversal is on the ground(s) that examination of three groups together would not create an undue burden. However, there is undue burden in the examination of application 10/022,115 unless the application is restricted.

Group I is drawn to methods for assessing the effect of a composition or treatment on human prostate cancer using an immune deficient mouse comprising a human prostate cancer xenograft. Groups IV and V are drawn to methods for impairing the progression of human prostate cancer cells providing a composition or an efficacious treatment to a subject comprising human prostate cancer cells. The method to assess the effect of a composition or treatment is materially different consideration from the field of identifying a method for impairing the progression of human prostate cancer using a composition or an efficacious treatment.

Because their subject matter is divergent, restriction for examination as indicated is proper. The requirement is still deemed proper and is therefore made FINAL.

Claims 27-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected groups, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Applicant's Response, filed 4/12/04.

Priority

The priority information in the first paragraph of the specification should be updated to reflect that U.S. App. No 09/567,202 is now U.S. Pat. 6,365,797 B1, U.S. App. No 08/951,143 is now U.S. Pat. No. 6,107,540, and that U.S. App. No. 08/732,676 is abandoned. Note also that the Applicants have submitted that the instant application is a divisional of application of App. No. 09/567,202, which is a divisional application of App. No. 08/951,143. Neither the 09/567,202 nor the 08/951,143 Applications have been subject to an election/restriction requirement, and as such, it is improper to designate them as divisional applications. Appropriate correction is required.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 DFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because it lists 08/732,676 as a U.S. provisional Application. 08/732,676 is a non-provisional case.

Claim Objections

Claims 22-26 are objected to because of the following informality. Since the claims have been renumbered, claim dependency need to be renumbered. Thus,

claims 22-26, which depend on claim 21, read, "(T)he method of claim 2,..." needs to be changed to, "(T)he method of claim 21,...".

Appropriate correction is required.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 21-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5-10 of U.S. Patent No. 6,107,540. An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct

from each other because the present claims are generic to claims 5-10 of '540. The present claims are drawn to a method of providing an immune deficient mouse with a xenograft of advanced or metastatic prostate cancer cell suspension (claim 21(a)), wherein the xenograft is subcutaneous (claim 23) or intraprostatic (claim 24). The xenograft mouse is then subjected to a treatment or composition (claim 21(b) and 26(a)) and the extent of the xenograft's growth determines the treatment's or composition's effect (claim 21(c)) and efficacy (claim 26(b)). The present claim states that the xenograft's growth is determined by comparing the xenograft's growth in the mouse with the treatment with the xenograft's growth of the mouse that did not receive the treatment (claim 22). The '540 claims are directed to an assay for assessing the effect of a treatment (claim 5) or a gene of interest (claim 6) for human prostate cancer. '540 also claims the mouse model wherein a xenograft of cancerous tissue implanted subcutaneously (claims 9 and 10) in an immune deficient (SCID) mouse (claim 8) exhibits cancer progression (claim 7). As present claims 21-26 are generic, each limitation of claims 5 and 6 of '540 is contained within the present claims. The present specification defines that method of claims 21-26 as useful for determining the effect of compositions, including gene therapy, in treatment protocols. Further, the prostate cancer mouse model of claims 7-10 of '540 are defined in the specification as useful in methods of determining drug and treatment efficacy, and thus are useful for the methods of assay in claims 21-26. Therefore, at the time of the instant invention, it would have been obvious to the ordinary artisan to reach the presently claimed invention, given claims 5-10 of '540.

Claims 21-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10-17 of U.S. Patent No. 6,365,797. An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims are generic and the limitations in the assays of claims 10-17 of '797 are encompassed by the present claims. The present claims are drawn to a method of providing an immune deficient mouse with a xenograft of advanced or metastatic prostate cancer cell suspension (claim 21(a)), wherein the xenograft is subcutaneous (claim 23) or intraprostatic (claim 24). The xenograft mouse is then subjected to a treatment or composition (claim 21(b) and 26(a)) and the extent of the xenograft's growth determines the treatment's or composition's effect (claim 21(c)) and efficacy (claim 26(b)). The present claim states that the xenograft's growth is determined by comparing the xenograft's growth in the mouse with the treatment with the xenograft's growth of the mouse that did not receive the treatment (claim 22). Claims 10-17 of '797 are to a mouse model or an assay using the mouse, having specific limitations. Thus, at the time of the instant invention, it would have been

obvious to the ordinary artisan to reach the presently claimed invention, given claims 10-17 of '797.

Claims 21-26 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 21-26 of copending Application No. 10/062,925. An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims are generic and the limitations in the assays of claims 21-26 of '925 are encompassed by the present claims. The present claims are drawn to a method of providing an immune deficient mouse with a xenograft of advanced or metastatic prostate cancer cell suspension (claim 21(a)), wherein the xenograft is subcutaneous (claim 23) or intraprostatic (claim 24). The xenograft mouse is then subjected to a treatment or composition (claim 21(b) and 26(a)) and the extent of the xenograft's growth determines the treatment's or composition's effect (claim 21(c)) and efficacy (claim 26(b)). The present claim states that the xenograft's growth is determined by comparing the xenograft's growth in the mouse with the treatment with the xenograft's growth of the mouse that did not receive

the treatment (claim 22). Claims 21-26 of '925 are to a mouse model, the limitations of which are encompassed by the mouse model used in the present claims. The '925 specification defines the mouse claimed therein as being useful as an assay system for prostate cancer treatment. Thus, at the time of the instant invention, it would have been obvious to the ordinary artisan to reach the presently claimed invention, given claims 21-26 of '925. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 21-26 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 21-26, and 29 of copending Application No. 10/066,266. An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims are generic and the limitations in the assays of claims 21-26 and 29 of '266 are encompassed by the present claims. The present claims are drawn to a method of providing an immune deficient mouse with a xenograft of advanced or metastatic prostate cancer cell suspension (claim 21(a)), wherein the xenograft is subcutaneous (claim 23) or

intraprostatic (claim 24). The xenograft mouse is then subjected to a treatment or composition (claim 21(b) and 26(a)) and the extent of the xenograft's growth determines the treatment's or composition's effect (claim 21(c)) and efficacy (claim 26(b)). The present claim states that the xenograft's growth is determined by comparing the xenograft's growth in the mouse with the treatment with the xenograft's growth of the mouse that did not receive the treatment (claim 22). Claims 21-26 and 29 in application '266, are to a method to assay a gene of interest in a mouse model, the limitations of which are encompasses by the assay system in the present application. The present application's claim is broad and reads "composition" as including, "gene." This composition is defined by the present specification to be used in the claimed assay.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 21 is confusing regarding antecedent basis of "the" in b) and c). The body of a claim should not refer back to the preamble.

Claim 22 lacks antecedent basis as there is no "detecting" in claim 21.

Claim 23-25 is confusing as to what is being further limited. If this is applicant's meaning, claims 23-25 would be clearer, if as by example, claim 23 read, "the method of claim 21 wherein the xenograft is subcutaneous."

Claim 26 is confusing as to what "respectively" refers to.

Claim 26 is also confusing as to whether step (b) limits "composition or treatment" in claim 21 or is an additional step. It would be clearer if claim 26(a) were written to state, "wherein the efficacy of the composition or treatment of claim 21 is unknown," or similar phraseology.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 21-23 and 26 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Soff et al. (1995, J. Clin. Invest., 96:2593-2600).

The claimed invention is to a method for assessing the effect of a composition or treatment on human prostate cancer, whereby a xenograft of human prostate cancer is transplanted subcutaneously in an immune deficient mouse, the mouse is given a composition or treatment, and the effect of the treatment is determined by comparing the effect of composition or treatment on the growth of the xenograft. The effect of the composition or treatment is determined by comparing the growth of the xenograft on the mouse that received a composition or treatment with the growth of the xenograft on another mouse that did not receive treatment. The composition or treatment's efficacy is determined by whether the growth of the xenograft was impaired.

Soff et al. disclose male athymic mice comprising human primary prostatic cell line, PC3. These cells are metastatic, androgen-independent and from a stage IV prostate tumor. The PC3 cells were transfected with a vector containing human PAI-1 mRNA and were injected subcutaneously into the athymic mice (page 2594 column 1, first and second whole paragraphs; page 2595, column 1, first whole paragraph). As a control, some athymic mice were injected subcutaneously with PC3 cells transfected with empty vector. At 3 weeks following subcutaneous injection, the difference in tumor size was detectable between the experimental and control animals (2596, column 1, third whole paragraph). Mice were also examined for metastases at 4-5 weeks and 7-8 weeks following subcutaneous injection. Metastasis sites in lung were counted and determined that PAI-1 transfected clones produced significantly less lung metastases than control clones (page 2597, column 2, first whole paragraph). Soff et al.'s results demonstrate that the expression of PAI-1 in prostate cancer cells had an efficacious effect on imparing tumor progression.

Soff et al. use a mouse model and an assay to determine the effect of a composition on the growth of prostate cancer. Thus Soff et al. meet all of the limitations of these claims and clearly anticipate claims 21-23 and 26.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 21, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soff et al. taken with Soos et al. (1996, Int. J. Cancer 66: 280-281) or Stephenson, et al. (1992, J. Nat. Cancer Inst. 84 :1992).

The claimed invention is to a method for assessing the effect of a composition or treatment on human prostate cancer, whereby a xenograft of human prostate cancer is transplanted subcutaneously in an immune deficient mouse, the mouse is given a composition or treatment, and the effect of the treatment is determined by comparing the effect of composition or treatment on the growth of the xenograft. The effect of the composition or treatment is determined by comparing the growth of the xenograft on the mouse that received a composition or treatment with the growth of the xenograft on another mouse that did not receive treatment. The composition or treatment's efficacy is determined by whether the growth of the xenograft was impaired.

Soff, et al. teach a human prostate cancer mouse model that is comprised of a xenograft of prostate cancer cells implanted subcutaneously in athymic mice. However, Soff et al. do not teach a human prostate cancer mouse model that is comprised of a xenograft of prostate cancer cells implanted intraprostatically or within the bone marrow cavity.

Soos et al. and Stephenson et al. supplement Soff et al. in teaching that implants of PC3 cells into the bone channel of the femur of nude mice (Soos, et al., page 280, second whole paragraph, lines 3-5) and PC3M cells into the prostate of nude mice (Stephenson, et al., page 951, Abstract, lines15-17) resulted in mouse models of human

prostate cancer whereby the mice exhibited metastases (Soos et al., page 280 paragraph 3, lines 1-3; Stephenson, et al., page 951, Abstract, lines 19-24).

Thus, it would have been obvious to an ordinary artisan at the time of the instant invention to produce a mouse model of human prostate cancer with an intraprostatic xenograft or a xenograft in the bone marrow given the teachings of Soff et al. as to for producing a mouse model of human prostate cancer with a subcutaneous xenograft, in view of Soos et al. teaching a prostate cancer xenograft introduced into the bone channel, and in view of Stephenson et al. teaching that a prostate cancer xenograft introduced intraprostatically. Motivation is provided by the knowledge that the prostate is a primary site of prostate tumors and that bone marrow/ bone channel is a metastatic site.

Thus, Applicants' claimed invention, as a whole, is clearly *prima facie* obvious in the absence of evidence to the contrary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joanne Hama, Ph.D. whose telephone number is (571) 272-2911. The examiner can normally be reached on Monday-Friday, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, Ph.D. can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

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DEBORAH CROUCH
PRIMARY EXAMINER
GROUP 1800

JH